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Σ 1639. 68 *Comæ Berenicis*. By Thomas Lewis.

R.A. $12^{h}\ 19^{m}\ 25^{s}$ } 1900 Mag. A 6·7
N.P.D. $63^{\circ}\ 52'$ } 1900 Mag. B 7·9

The measures commence in 1827 by W. Struve; but they are few in number owing to the closeness of the components since 1880. It is undoubtedly binary, and as the distance is now increasing again it will become a fairly easy object and is worth attention.

Of course the orbit here given is only approximate, and is intended merely to call attention to the pair.

The annual means of the measures are :—

Year.	Angle.	Distance.	
	°	″	
1827·28	291·2	1·27	Σ (1)
29·39	289·7	1·15	Σ (3)
36·49	292·8	1·18	Σ
41·39	289·7	1·03	OΣ (1)
42·37	285·5	1·19	OΣ (2)
43·33	293·7	0·98	Maed. (1)
44·32	289·2	1·18	OΣ (1) Maed. (1)
48·35	288·8	0·96	Maed. (1)
55·32	282·2	0·97	OΣ (1)
56·48	288·1	0·87	Secchi (1)
57·33	283·6	0·84	Secchi (1)
58·34	283·0	1·00	De (4)
63·16	285·7	0·67	De (4)
70·31	275·8	0·74	OΣ (1)
75·25	273·6	0·40	De (1) Schiap. (4)
76·46	272·6	0·39	De (1)
77·41	271·4	0·40	De (1) Schiap. (4)
78·31	268·3	0·36	De (1)
79·31	268·7	0·4	Schiap. (2)
81·37	260·7	0·4	Schiap. (2)
82·39	258·1	0·39	Schiap. (4)
83·30	259·5	0·34	Engel (16) Schiap. (3)
84·37	243·7	0·38	Schiap. (2)
85·41	249·0 (?)	...	Schiap. (2)
87·39	236·0	0·22	Schiap.
89·40	215·6	0·2	H. Struve (1)
90·46	Single		H. Struve

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Year.	Angle.	Distance.	
	°	''	
92·36	Single		Burnham (36-inch)
93	Single		Lewis (13-inch)
95	Single		Lewis (28-inch)
95·24	97·1	0·28	Lewis (1)
95·32	25·4	0·2	H. Struve (3)
96·34	19·3	0·15	Lewis (1)
97·26	12·7	0·25	Aitken (3) Lewis (2)
98·30	9·7	0·27	Aitken (3) Lewis (1)
99·37	3·0	0·26	Aitken (3) Lewis (3)
00·32	356·9	0·19	Bowyer (3) Lewis (3)
01·28	356·7	0·32	Aitken (3) Lewis (3) Bryant (1)

If from these measures we adopt the following six positions by taking means of neighbouring years—

	°	''
1831·05	291·2	1·20
43·94	289·4	1·07
58·21	284·5	0·87
76·21	271·6	0·45
82·35	259·4	0·38
85·88	239·9	0·30

and plot them out, we find that so far as direction alone is concerned they are very closely represented by a straight line in the direction 123°·0; but the rate of motion along this line is

	''	
from 1831 to 1843	·092	in one year
1858	·126	,,
1876	·171	,,
1882	·173	,,
1885	·186	,,
1889	·210	,,

which clearly indicates orbital motion, and explains why the pair was not measurable in 1892 and 1893. It also shows that the recent measures are in the first quadrant.

We then have in addition to the above six normal places—

1895·24	97·1	0·28
1897·30	13·1	0·22
1900·32	358·9	0·26

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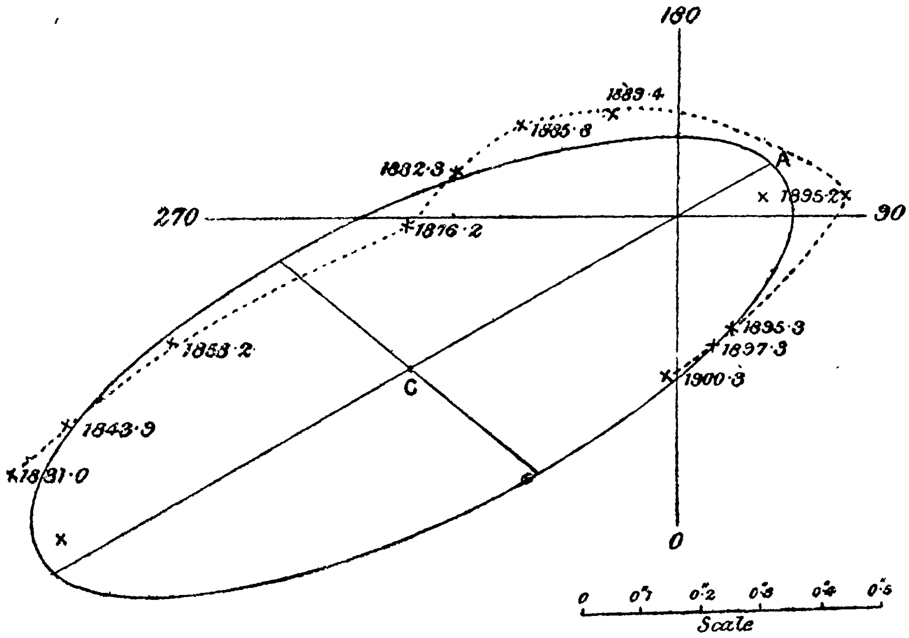

These positions are shown in the figure which is the adopted apparent ellipse, from which the following elements for the true ellipse have been computed :—

$\tau = 1892{\cdot}0$	$\Omega = 109^\circ\ 12'$
$\mu = 180$ years	$\lambda \quad 18\ \ 7$
$\epsilon = 0{\cdot}70$	$\gamma \quad 58\ \ 9$
$a = 0''{\cdot}71$	$\phi \quad 42^\circ{\cdot}88$

The measures of H. Struve were received after this paper was written. They uphold the binarity and conclusions here given in the most decided manner.

1901 *December* 28.

Observations of the Satellite of Neptune from Photographs taken at the Royal Observatory, Greenwich, in 1899–1900.

(*Communicated by the Astronomer Royal.*)

By inadvertence the publication of these results for the opposition of 1899–1900 has been delayed till now.

The photographs were taken with the 26-inch refractor of the Thompson equatorial. An occulting shutter immediately in front of the plate has been used to screen the planet during the greater part of the long exposure on the satellite, a series of very short exposures (usually twenty of one second each) being given to